
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

Gordon P. Eaton, Director

Reston, VA 20192

For Information Call:

Henry E. Hilliard, Vanadium Specialist (703) 648-4970

Fax (703) 648-7757; e-mail: hhilliar@usgs.gov

Thomas Dolley, Statistical Assistant (703) 648-7975

For MINES FAXBack Call:

(703) 648-7975

World Wide Web:

<http://minerals.er.usgs.gov/minerals>

Vanadium, Monthly

VANADIUM IN MAY 1996

The total reported consumption of vanadium in May increased by about 17 percent from consumption in April, according to the U.S. Geological Survey. A 10 to 13 percent decrease in the stainless and heat-resisting, high-strength low-alloy, and tool steel end use categories was more than offset by a 50 percent increase in the carbon steel end use category and a 10 percent increase in the full alloy end use category. Total consumption was 399 metric tons, about 22 percent more than consumption in May 1995.

Update: On July 2, 1996, the Defense National Stockpile Center, Fort Belvoir, VA, issued invitation for Bids DLA-VANADIUM-001 offering approximately 1,596,785 pounds of contained vanadium pentoxide for sale. The format of the Solicitation was "sealed bid," not "negotiated bid" as reported here in March 1996. If all material is not sold, subsequent bid openings will be held on the fourth Thursday of each

month at 10:00 a.m. local time until the remaining material is sold. Bids may be submitted by mail, hand delivery, or facsimile transmission. Bids should be addressed to the Defense National Stockpile Center, ATTN: Bid Custodian (DNSC-LX, 8725, John J. Kingman Road, Suite 3339 (Mail) or Suite 4528 (Hand-Delivered), Fort Belvoir, VA, 22060-6223. The facsimile number for submitting bids is (703) 767-5541. Request for copies of the Invitation for Bid or other information on the Solicitation should be directed to Kerri Chambers at (703) 767-5498.

On July 31, 1996, the Defense National Stockpile Center awarded vanadium pentoxide under Invitation for Bids, DLA-VANADIUM-001. An award was made to Shieldalloy Metallurgical Corp. Newfield, NJ, for 127,545.6 pounds of vanadium pentoxide at \$3.100 per pound for a total value of \$395,391.36.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM, IN 1996 1/

(Kilograms, contained vanadium)

	April		May	
	Consumption	Stocks	Consumption	Stocks
Ferrovandium 2/	303,000 r/	315,000 r/	361,000	298,000
Oxide	1,120	6,610	1,120	6,610
Vanadium-aluminum alloy	W	15,400 r/	W	15,400
Vanadium chemicals 3/	W	W	W	W
Other 4/	36,300 r/	4,520	36,300	4,520
Total	340,000 r/	342,000 r/	399,000	325,000

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

3/ Includes vanadates, chlorides and other specialty chemicals.

4/ Includes other vanadium alloys, vanadium metal, and items indicated by symbol "W."

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE 1/

(Kilograms, contained vanadium)

	1995	1996		Year to date p/ 2/
		April	May	
Steel:				
Carbon	1,620,000	123,000 r/	185,000	750,000
Stainless and heat-resisting	31,100	1,900	1,650	10,000
Full alloy	825,000	66,400 r/	73,400	338,000
High-strength low-alloy	1,060,000	75,600 r/	67,700	389,000
Tool	344,000	33,300	27,600	157,000
Unspecified	W	--	--	--
Total steel	3,880,000	300,000 r/	356,000	1,640,000
Cast irons	W	W	W	W
Superalloys	19,200	1,270	1,760	5,990
Alloys (excluding steels and superalloys):				
Cutting and wear-resistant materials	245	20	20	102
Welding and alloy hard-facing rods and materials	W	W	W	W
Nonferrous alloys	W	W	W	W
Other alloys 3/	W	W	W	W
Chemical and ceramic uses:				
Catalysts	W	W	W	W
Other 4/	W	W	W	W
Miscellaneous and unspecified	356,000	39,000 r/	41,100	163,000
Total consumption	4,260,000	340,000 r/	399,000	1,810,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions to previous months' data.

3/ Includes magnetic alloys.

4/ Includes pigments.

TABLE 3
U. S. EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY, FERROVANADIUM, OXIDES
AND HYDROXIDES OF VANADIUM, AND VANADIUM METAL IN APRIL 1996 1/

(Kilograms, vanadium content unless otherwise specified)

Material and country	Quantity	Value	Year to date p/	
			Quantity	Value
Aluminum-vanadium master alloy: 2/				
Argentina	1,080	\$14,000	1,080	\$14,000
Austria	--	--	1,940	32,200
Canada	24,200	247,000	55,200	650,000
Ireland	--	--	181	4,600
Japan	--	--	1,050	13,600
Korea, Republic of	--	--	3,270	42,500
Malaysia	--	--	897	11,700
Mexico	7,650	99,400	17,300	231,000
Suriname	139	6,460	139	6,460
United Kingdom	2,000	37,300	21,100	368,000
Venezuela	--	--	3,810	49,600
Total	35,000	404,000	106,000	1,420,000
Ferrovanadium:				
Canada	15,700	332,000	92,300	1,520,000
Mexico	10,800	215,000	83,500	1,560,000
Venezuela	--	--	2,300	76,800
Total	26,500	547,000	178,000	3,150,000
Vanadium pentoxide (anhydride): 3/				
Italy	14,800	125,000	39,600	323,000
Japan	--	--	5,080	45,700
Kuwait	--	--	4,970	34,300
Pakistan	--	--	6,040	83,600
United Kingdom	--	--	15,900	151,000
Total	14,800	125,000	71,600	638,000
Other oxides and hydroxides of vanadium:				
Australia	--	--	675	6,000
Canada	19,900	136,000	84,500	587,000
France	--	--	15,200	128,000
Germany	6,290	67,300	6,290	67,300
Russia	12,300	110,000	12,300	110,000
South Africa	--	--	20,000	151,000
Spain	--	--	2,210,000	9,030,000
Switzerland	--	--	6,880	37,100
Total	38,500	313,000	2,360,000	10,100,000
Vanadium metal, including waste and scrap: 2/				
Australia	--	--	2,320	92,000
Germany	--	--	631	15,200
Taiwan	--	--	131	11,900
United Kingdom	50,800	447,000	84,300	548,000
Total	50,800	447,000	87,400	667,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Gross weight.

3/ May include catalysts containing vanadium pentoxide.

Source: Bureau of the Census.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF ALUMINUM-VANADIUM MASTER ALLOY,
FERROVANADIUM, OXIDES AND HYDROXIDES OF VANADIUM, AND VANADIUM METAL IN APRIL 1996 1/

(Kilograms, vanadium content unless otherwise specified)

Material and country	Quantity	Value	Year to date p/	
			Quantity	Value
Aluminum-vanadium master alloy: 2/				
Germany	--	--	343,000	\$480,000
Ferrovandium:				
Austria	13,800	\$222,000	27,300	430,000
Belgium	--	--	62,700	947,000
Canada	46,300	639,000	203,000	3,030,000
Czech Republic	42,800	573,000	167,000	2,260,000
Germany	3,000 3/	16,200 3/	3,000	16,200
Russia	--	--	14,900	171,000
South Africa	14,800	211,000	46,000	700,000
Tajikistan	26,400	407,000	26,400	407,000
Total	147,000	2,070,000	549,000	7,970,000
Vanadium pentoxide (anhydride): 4/				
China	25,000 3/	227,000	40,800	329,000
France	3,040 3/	48,500 3/	11,800	190,000
Germany	76	3,540	327	14,400
South Africa	30,800	388,000	136,000	1,700,000
Total	58,900	668,000	189,000	2,230,000
Other oxides and hydroxides of vanadium:				
France	--	--	304	48,600
Germany	--	--	1	2,610
United Kingdom	6,030	76,000	6,030	76,000
Total	6,030	76,000	6,340	127,000
Vanadium metal, including waste and scrap: 2/				
Germany	19,400	363,000	25,600	500,000
Russia	--	--	499	21,400
South Africa	--	--	58,300	1,140,000
United Kingdom	1	4,220	1	4,220
Total	19,400	367,000	84,400	1,670,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Gross weight.

3/ All or part of these data have been referred to the Bureau of the Census for verification.

4/ May include catalysts containing vanadium pentoxide.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING
ASH, SLAG AND RESIDUES IN APRIL 1996 1/

(Kilograms, vanadium pentoxide content)

Material and country	Quantity	Value	Year to date p/	
			Quantity	Value
Ash and residues:				
Canada	47,500	\$235,000	66,100	\$276,000
Mexico	--	--	172,000	994,000
Netherlands	--	--	7,760	2,670
Portugal	--	--	7,130	6,470
Total	47,500	235,000	253,000	1,280,000
Ash and residues (not from the manufacture of iron and steel):				
Canada	163,000	36,000	523,000	119,000
Slag, from the manufacture of iron and steel:				
South Africa	--	--	304,000	1,180,000
Other residues: (Not advanced in value)	--	--	--	--

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS
VANADIUM CHEMICALS IN APRIL 1996 1/

(Kilograms, vanadium content)

Material and country	Quantity	Value	Year to date p/	
			Quantity	Value
Vanadates:				
Germany	2,170	\$22,100	3,180	\$69,400
South Africa	--	--	12,300	82,800
Total	2,170	22,100	15,500	152,000
Hydrides and nitrides:				
South Africa	12,600	219,000	130,000	2,320,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.